5

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Director of the U.S. Patent & Trademark Office, Washington, DC 20231 on the date indicated below.

Jodi A. Calderon

Date: 5-18-01

Jodi A. Calderon

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.:	09/769,561	Examiner: (not yet assigned)
Filing Date:	January 25, 2001	Group Art Unit: 1764
Inventor:	Johnston	Attorney Docket No. 101.002
Assignee:	Meggitt (UK) Limited	
Invention:	*Compact Reactor*	

PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Sir:

In advance of examination, Applicants respectfully request that the following amendment be entered.

IN THE SPECIFICATION:

Please amend the specification as follows:

This application claims priority under 35 U.S.C. §119(e) to U.S. Provisional Patent Application No. 60/184,007, entitled Catalytic Bed Reactor, filed February 22, 2000, and under 35 USC §119(a) to G.B. 0001699.8, filed January 25, 2000 and G.B. 0017189.2, filed July 13, 2000, the entirety of each of which is incorporated herein by reference.

IN THE CLAIMS:

Please cancel claims 1-10.

Please add new claims 11-35 as follows:

11. (New) A reactor comprising:

(a) an outer wall;

(b) a plurality of heat exchanger panels arranged within the outer wall at an angle thereto such as to extend inwardly to an interior of the reactor;

(c) a plurality of reaction zones separated by the heat exchanger panels but in fluid communication with one another via the heat exchanger panels, and forming thereby in succession a plurality of production flow paths; and

(d) baffles located within each reaction zone, wherein each of the baffles extends from a heat exchanger surface of an associated one of the heat exchanger panels to define a boundary for the associated reaction zone and to cause the production flow paths to extend between a central part of the reactor to an outer peripheral part thereof.

12. (New) A reactor according to claim 11, wherein the configuration of each of the production flow paths is that of a spiral.

13. (New) A reactor according to claim 11, further comprising two concentric catalyst containment screens, between which the reaction zones are contained.

14. (New) A reactor according to claim 11, wherein the outer wall is curved, the reactor is cylindrically shaped, and the heat exchanger panels are arranged about a central point to thereby define a plurality of sectors each containing at least one reaction zone.

15. (New) A reactor according to claim 14, wherein each sector is divided into a plurality of reaction zones by the baffles.

16. (New) A reactor according to claim 15, wherein each of the baffles is arranged to extend from a heat exchanger surface to define a boundary for an associated reaction zone.

17. (New) A reactor according to claim 15, wherein the baffles are curved.

18. (New) A reactor according to claim 15, wherein the baffles are straight.

19. (New) A rector according to claim 15, wherein the baffles are corrugated.

20. (New) A reactor according to claim 14, wherein the heat exchanger panels are arranged radially about a longitudinal axis of the reactor.

21. (New) A reactor according to claim 11, wherein the reaction zones comprise catalyst beds.

22. (New) A reactor comprising:

(a) a containment shell;

(b) a plurality of heat exchanger panels that are spaced circumferentially around a longitudinal axis of the containment shell so as to form reaction zones therebetween;

(c) a plurality of catalyst beds that are disposed in the reaction zones; and

(d) a plurality of baffles that are located in the containment shell to form flow paths in the catalyst beds, wherein each of the flow paths contains a plurality of segments

that are bounded by the panels and that are connected with one an other via passageways in the panels, and wherein additional passageways are formed in the panels for the passage of a heat exchange medium therethrough.

23. (New) A reactor according to claim 22, wherein

the containment shell is at least essentially cylindrical in shape,

each of the panels extends at least generally radially with respect to the longitudinal axis,

the baffles are arranged relative to one another and to the panels to cause the flow paths to be at least generally spiral-shaped.

24. (New) A reactor according to claim 23, wherein the baffles are curved.

25. (New) A reactor according to claim 23, wherein the baffles are straight.

26. (New) A reactor according to claim 22, wherein each of the additional passageways has an inlet in fluid communication with a source of the heat exchange medium and an outlet.

27. (New) A reactor according to claim 26, wherein the additional passageways open into inlets of the flow paths, thereby permitting feed reactants to be used as the heat exchange medium.

28. (New) A reactor according to claim 22, wherein a first manifold communicates with the inlets of the additional passageways and a second manifold communicates with the outlets of the additional passageways, one of the first and second manifolds surrounding the catalyst beds and the other of the first and second manifolds being surrounded by the catalyst beds.

29. (New) A reactor comprising:

(a) a cylindrical containment shell;

(b) a plurality of heat exchanger panels that are spaced around a central axis of the containment shell so as to form reaction zones therebetween, that extend radially relative to the central axis, and that have passageways formed therethrough;

(c) a plurality of catalyst beds that are disposed in the reaction zones; and

(d) a plurality of baffles that are located in the containment shell to form generally spiral flow paths each having a radially inner inlet end and a radially outer outlet end, wherein each of the flow paths contains a plurality of segments that are bounded by the panels and that are connected to one another by the passageways in the panels, and wherein additional passageways are formed radially through the panels for the flow of a heat exchange medium therethrough.

30. (New) The reactor according to claim 29, wherein outlets of the additional passageways are in fluid communication with the inlets of the flow paths, thereby permitting feed reactants to be used as the heat exchange medium.

31. (New) The reactor according to claim 29, wherein a first manifold communicates with inlets of the additional passageways and a second manifold communicates with outlets of the additional passageways, one of the first and second manifolds surrounding the catalyst beds and the other of the first and second manifolds being surrounded by the catalyst beds.

32. (New) A method comprising:

(a) directing reactants at least generally circumferentially of a reactor through a plurality of flow paths in catalyst beds in the reactor, the flow path being separated from one another by baffles;

(b) as the reactants flow through the flow paths, directing the reactants through passages in heat exchanger panels that bound reaction zones within the reactor and that bound ends of flow path segments making up the flow paths; and

(c) directing a heat exchange medium through additional passageways in the panels to alter the temperature of the reactants flowing through the passageways.

33. (New) A method according to claim 32, wherein the heat exchange medium comprises feed reactants that pass through the additional passageways before flowing into inlets of the flow paths.

34. (New) A method according to claim 32, wherein the heat exchange medium flows into an inlet manifold and at least generally radially through the additional passageways in panels at least one pass, and out of an outlet manifold, and wherein one of the inlet manifold and the outlet manifold surround the catalyst beds and the other of the inlet manifold and the outlet manifold is surrounded by the catalyst beds.

35. (New) A method according to claim 32, wherein the heat exchange medium is a cooling medium, and wherein the reactants are progressively cooled as they flow through the flow paths.

REMARKS

Entry of the amendments is respectfully requested. The specification has been amended to correct a typographical error in the claim for priority. Claims 1-10 have been canceled. New claims 11-35 have been added, without narrowing the claims and for purposes unrelated to patentability, in order to place the claims into conformance with preferred USPTO practice. Claims 11-35 are pending in the application.

CONCLUSION

A check for $280 is enclosed in payment of the fee associated with 1) a request for a one-month extension of time ($110), which applicant hereby makes, 2) the submission of five claims in excess of 20 ($90), and 3) the submission of one additional independent claim in excess to three ($80) by a large entity. No other fees are believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

The application is now ready for examination on the merits. Early notification of such action is earnestly solicited.

Respectfully submitted,

Timothy E. Newholm
Registration No. 34,400

Dated: May 18, 2001

BOYLE FREDRICKSON NEWHOLM
STEIN & GRATZ S.C.
250 Plaza, Suite 1030
250 East Wisconsin Avenue
Milwaukee, WI 53202
Telephone: (414) 225-9755
Facsimile: (414) 225-9753

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amended Specification Paragraphs

Paragraph beginning on page 1, line 3:

This application claims priority under 35 U.S.C. §119(e) to U.S. Provisional Patent Application No. ~~60/084,007~~ 60/184,007 entitled Catalytic Bed Reactor, filed February 22, 2000, and under 35 USC §119(a) to G.B. 0001699.8, filed January 25, 2000 and G.B. 0017189.2, filed July 13, 2000, the entirety of each of which is incorporated herein by reference.